UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

JULY 1960

PART II - FISHING INFORMATION

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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Bureau of Commercial Fisheries
Biological Laboratory
P.O. Box 6121, Pt. Loma Station
San Diego 6, California

IMPORTANT NOTICE

This is the first issue of PART II - FISHING INFORMATION of the CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY. It is being mailed to you in the expectation that you will find it useful. Please read the explanatory statement on the next page and examine the contents of this issue. Should you wish to receive it regularly, please complete the form on the lower part of this sheet and return it within 30 days to the address indicated. Recipients who do not return the form will be withdrawn from the mailing list. This applies equally to those organizations and individuals who have received the monthly SEA-SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN.

(RETURN THIS PORTION OF SHEET ONLY)

JULY 1960

Director, Biological Laboratory
U.S. Bureau of Commercial Fisheries
P. O. Box 6121, Pt. Loma Station
San Diego 6, California

Please mail, until further notice, California Fishery Market News Monthly Summary, Part II - Fishing Information.

NAME _____

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if a business, government agency, etc. _____

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Comments or suggestions: _____

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ADDITION OF PART II TO
"CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY"

The "CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY", published by the U. S. Bureau of Commercial Fisheries, is now issued in two parts:

Part I - Fishery Products Production and Market Data will continue to provide information on receipts of major California Fisheries at leading ports, packs of major canned products and byproducts, and wholesale prices. This part is issued by the Bureau's Market News Service at San Pedro. (Requests for this part should be made to the Market News Service, Bureau of Commercial Fisheries, Post Office Building, San Pedro, California.)

Part II - Fishing Information, of which this marks the first issue, includes monthly sea-surface temperature charts for the eastern Pacific, and fishing and research information of interest to the west coast tuna fishing industry and marine scientists. Part II is released by the Bureau's San Diego Biological Laboratory.

The Bureau established the San Diego Biological Laboratory in 1959 as its center for scientific studies concerned with tuna of the eastern Pacific. Its prime purpose is to provide for the specific application of oceanographic and biological findings to the problems of the west coast tuna fishing industry. The laboratory is concerned alike with tropical tunas, albacore and bluefin. Part II - Fishing Information of the California Market News Monthly Summary will be the principal medium used to disseminate information to the industry.

The monthly publication will routinely include sea-surface temperature charts. It will not always contain research and fishing information. Such will be included when there is something of significance to report. It is well to point out in this connection, that scientific work can proceed no faster than data are accumulated, men are trained to interpret them, and funds are made available for research. The amount of fishing and research information of the latter type will increase as our research program develops.

The temperature charts cover that area of the Pacific from the Aleutians in the north to Peru and Chile in the south and offshore to 180° W. longitude. They show for each month the average sea-surface temperature and the deviations from the 30-year average and from the previous year. Between May and November, single page supplements are issued twice monthly to show, for the immediate region off the west coast (25° to 52° N. and offshore to 135° W.), the average sea-surface temperature for the first and last 15 days of the month.

Research and fishing information indicates that the distribution of tunas and many other commercial species is directly affected by sea-surface temperatures. The charts are being prepared promptly and are expected to be most useful to fishermen in their operations. They will also benefit research scientists and meteorologists studying the oceanic environment of the eastern Pacific.

The one-page supplements will be of interest primarily to fishermen operating along the United States west coast, particularly albacore fishermen, and research agencies concerned with the coastal environment. They are mailed under separate cover. Should you wish them as well as the regular monthly publication, please so note on the request form that you return.

Gerald V. Howard, Director
Biological Laboratory, San Diego

TOPOGRAPHIC CHARTS OF THE EASTERN PACIFIC

The Bureau's San Diego Biological Laboratory, in cooperation with the University of California, Institute of Marine Resources, is preparing and issuing a series of topographic charts or relief maps of the ocean floor for the area of the eastern Pacific of interest to tuna fishermen. Twenty-four charts will cover the area from 35° N. latitude, which is just north of Pt. Arguello, California, to 24° S. latitude, south of Antofagasta, Chile, and offshore 600 to 700 miles. It will be determined whether there are sufficient new sounding data to warrant preparation of charts between Pt. Arguello and the Columbia River.

Tuna are known to be frequently more abundant around sea-mounts and deeper protuberances rising above the sea-floor. The accidental discovery of Shimada Bank (16°52' N., 117°31' W.) with the ensuing large catches of yellowfin tuna was largely instrumental for the initiation of the project to analyze and plot the large amount of sounding data collected during the past decade by research vessels of Scripps Institution of Oceanography and other agencies. The topographic charts will be useful in locating tuna and also for navigation. Two of the series (Charts No. 1 and 3) were issued this spring. They cover an area from the coast offshore to 120° W. longitude between 23° and 35° N. latitude. We expect to be able to issue an average of one chart each month until completion of the series.

Requests for these charts should be addressed to the San Diego Biological Laboratory.

SEA-SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
JULY 1960

Acknowledgements

The following organizations and stations contributed data for the July 1960 charts:

U. S. Weather Bureau, San Diego, California
U. S. Navy Fleet Weather Facility, North Island, San Diego, California
U. S. Naval Communication Station Balboa, Fort Amador, Canal Zone
U. S. Navy Branch Hydrographic Offices, Honolulu, Hawaii; Seattle, Washington; San Francisco, California and Wilmington, California
U. S. Coast Guard, Port Hueneme Light Station, Port Hueneme, California
U. S. Bureau of Commercial Fisheries, Biological Laboratories, Honolulu, Hawaii and Seattle, Washington
U. S. Bureau of Commercial Fisheries, Exploratory Fishing and Gear Research Base, Seattle, Washington
Hopkins Marine Station, Pacific Grove, California, by J. P. Balesteri
Humboldt State College by George Allen
Inter-American Geodetic Survey by Rene Cortes at Salina Cruz, Mexico, David Ortega at Manzanillo, Mexico, Romeo Valencia at Pt. San Jose, Guatemala, Luis Lynch at Pt. Armuelles, Panama, V. E. Castillo at Tumaco, Colombia, Gualberto Tapia at San Cristobal, Galapagos, Jose Lanchimba at La Libertad, Ecuador, Raul Celis at San Juan, Peru, and C. Gamarra at Talara, Peru
Inter-American Tropical Tuna Commission, La Jolla and Terminal Island, California
Kelco Company, San Diego, California
Newport Beach Life Guard Service, Balboa, California
Oregon State College by Bruce Wyatt
Pacific Oceanographic Group, Nanaimo, B. C., by H. J. Hollister from observations by R. W. Collins at Kains Island Light, J. A. Bournazel at Cape St. James Light, and B. Stuart at Amphitrite Point Light
Scripps Institution of Oceanography, La Jolla, California, by Margaret Robinson and Hans Klein
Ships Frances Salman, Trolleggen and Avila

Charts

Figure 1.--Mean sea-surface temperatures (°F) derived from approximately 8000 observations. Squares show temperature at weather-ship stations. Numerals on shore are temperatures at coastal and light stations.

Figure 2.--Deviation of sea-surface temperatures (°F) from 30-year mean charts of H. O. 225. Hatched areas are colder than mean.

Figure 3.--Deviation of sea-surface temperatures (°F) from those of July 1959. Hatched areas are colder than 1959.

Figure 4.--Sea-surface temperatures (°F) by 1-degree squares, approximately 2000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal and light stations.

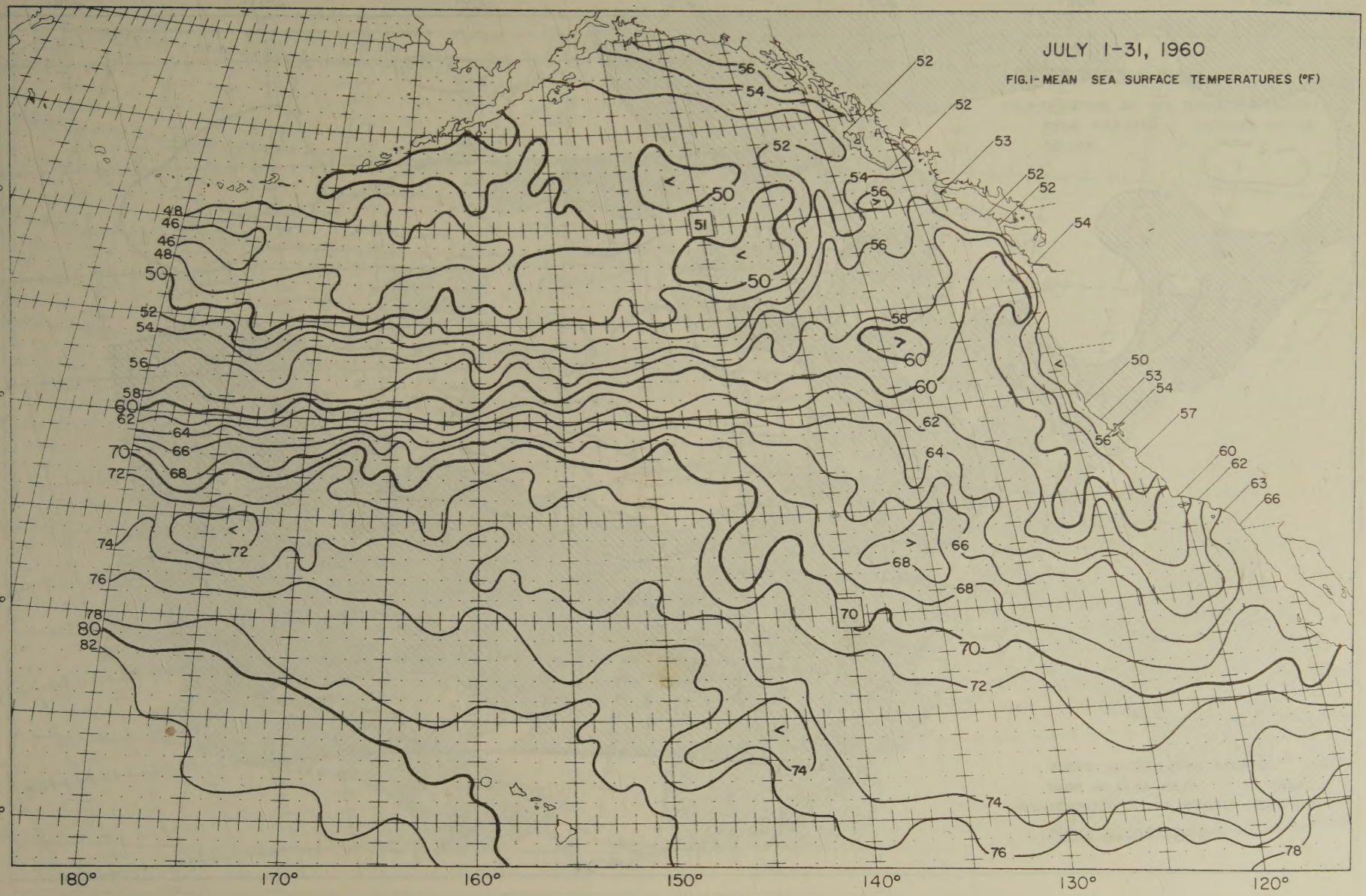
Figure 5.--Deviation of sea-surface temperatures (°F) July 1960 -July 1959 by 1-degree squares. Shaded areas colder in 1960.

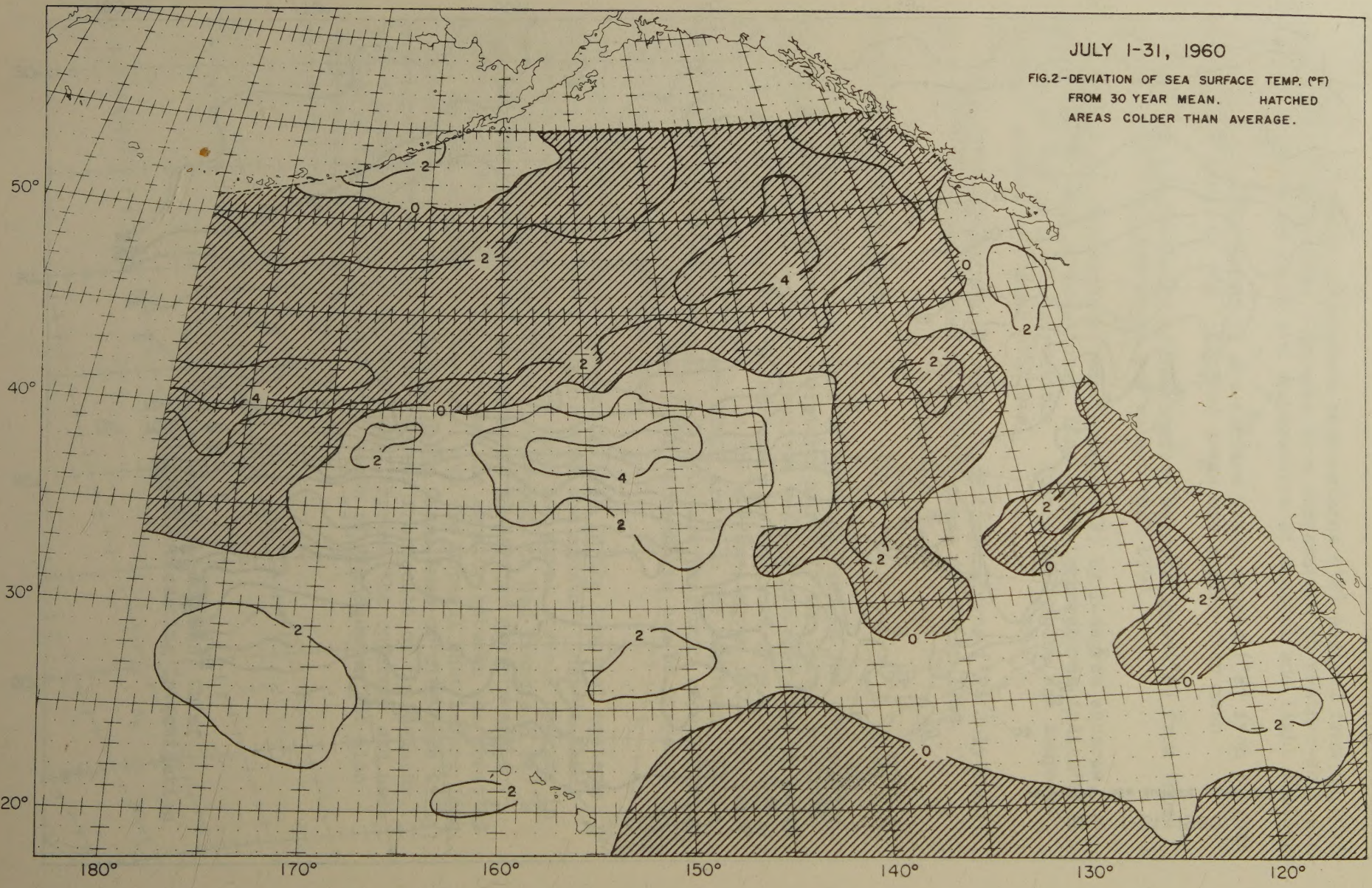
Source of Temperature Data

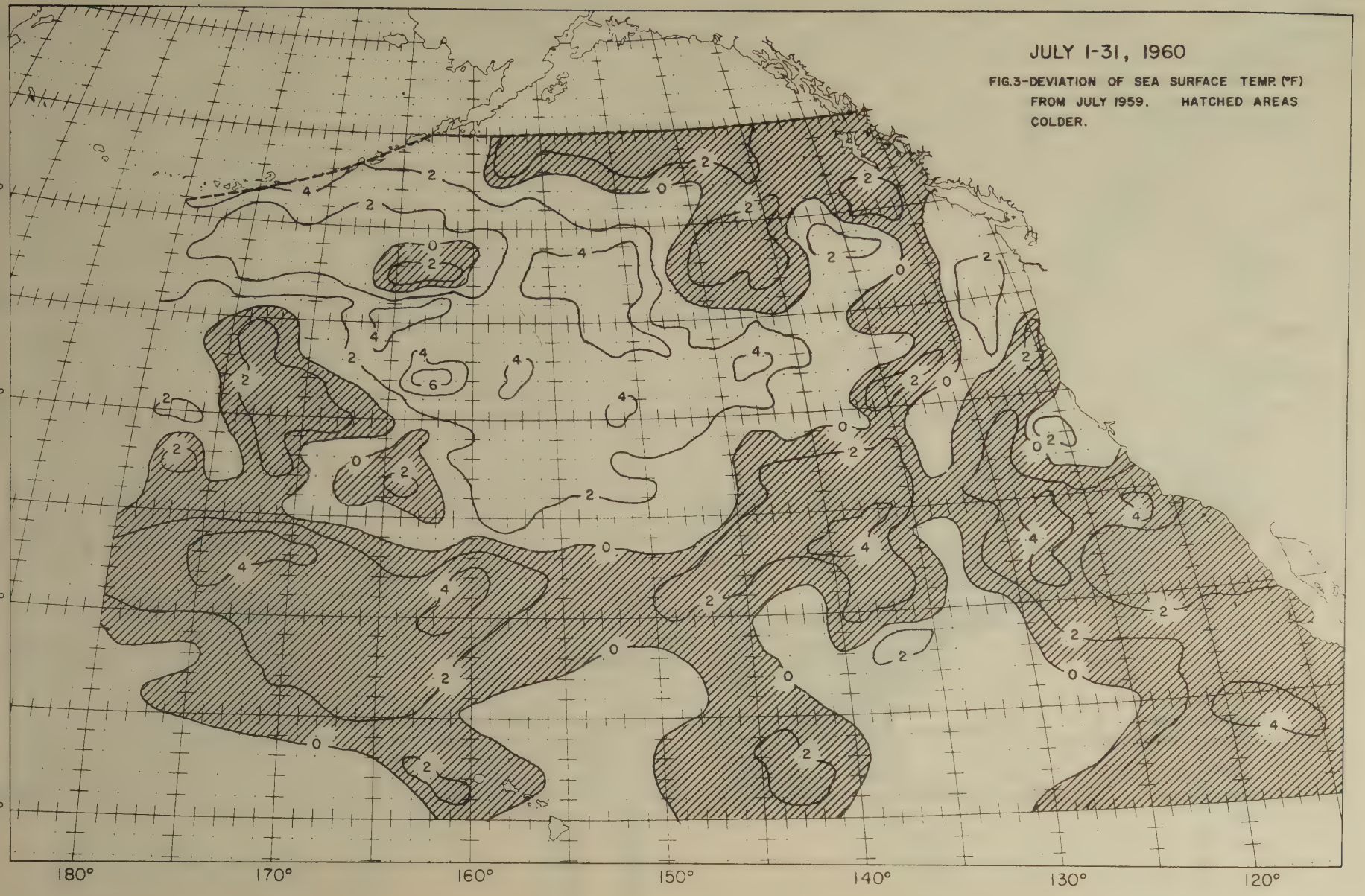
Main source of the thousands of readings used in the preparation of the monthly sea-surface temperature charts is the United States Weather Bureau which routinely receives weather messages from ships at sea. Several hundred observations are also obtained from other organizations (see Acknowledgements). On the average, about 12000 readings are available each month. About 10000 are from the northern region of the eastern Pacific and only some 2000 are presently received from south of 20° N. latitude. That is why the charts can be prepared in more detail for the northern area.

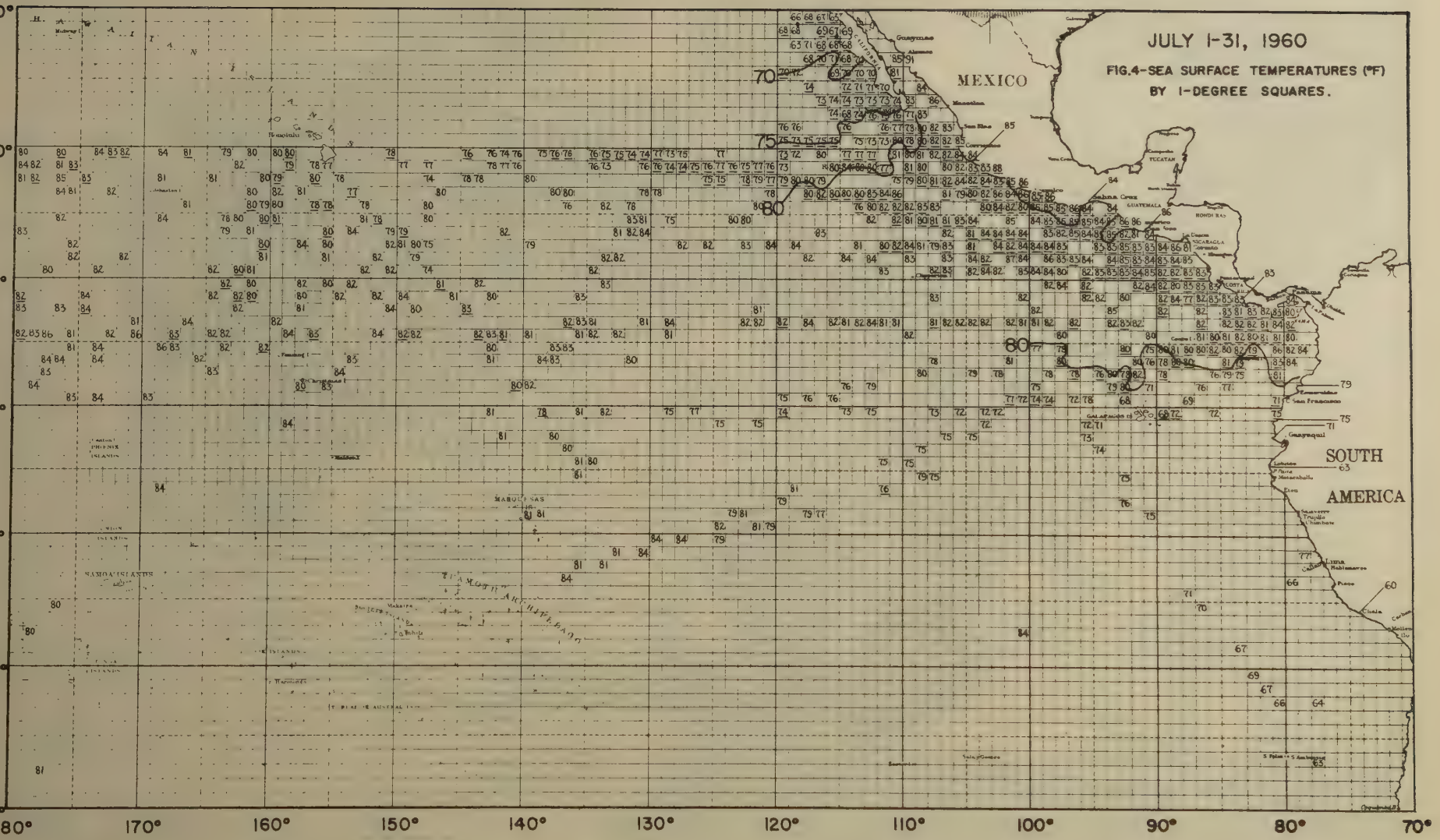
The Weather Bureau's coverage is less in the tropical eastern Pacific, both to the north and south of the equator, than in the temperate region because fewer merchant and naval vessels operate in this region, transmission of weather reports to San Francisco is apparently more difficult, and there is no regular radio weather reporting by merchant ships south of the equator between the coast of South America and 120° W. longitude. We are hopeful that before long a suitable coastal radio station in the Canal Zone or elsewhere will be designated to receive weather reports from south of the equator. Such a station, when established, will improve the coverage and usefulness of the charts, particularly south of the equator but also immediately to the north.

James H. Johnson, Chief
Tuna Forecasting Investigation


JULY 1-31, 1960
FIG.1- MEAN SEA SURFACE TEMPERATURES (°F)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1960
FIG.2-DEVIATION OF SEA SURFACE TEMP. (°F) FROM 30 YEAR MEAN. HATCHED AREAS COLDER THAN AVERAGE.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1960
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F) FROM JULY 1959. HATCHED AREAS COLDER.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1960
FIG.4-SEA SURFACE TEMPERATURES (°F)
BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
30°
20°
10°
0°
10°
20°
30°
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°

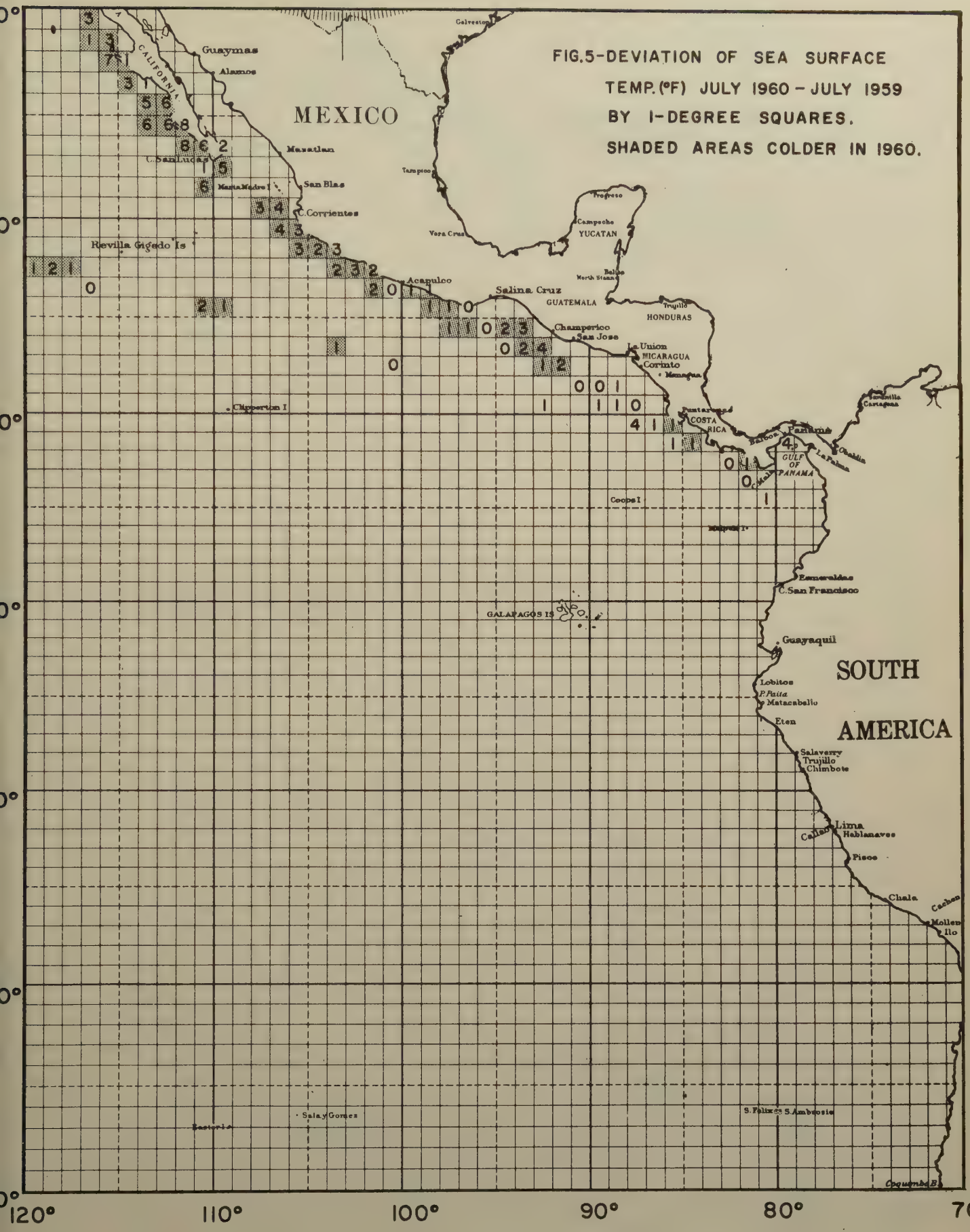
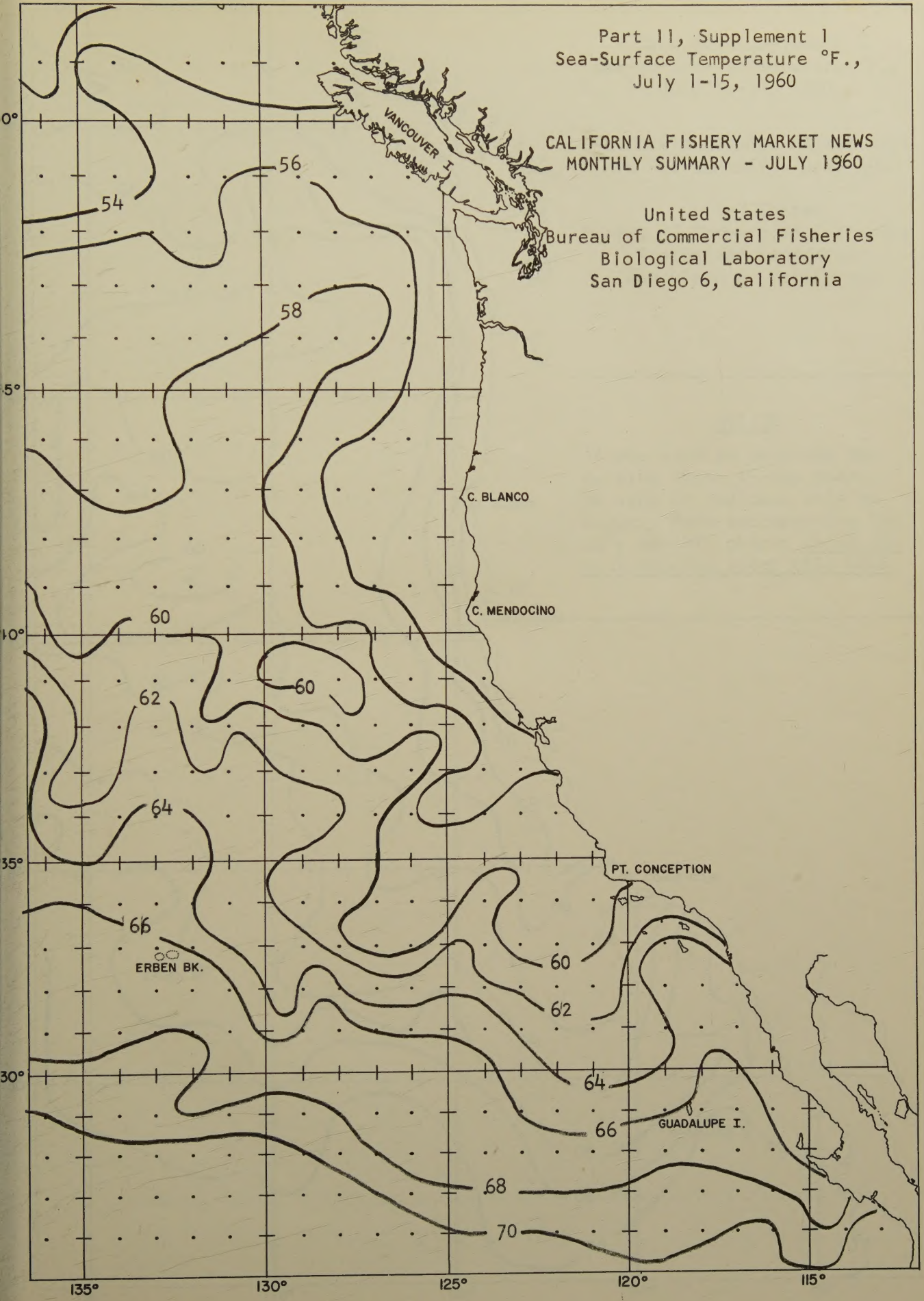
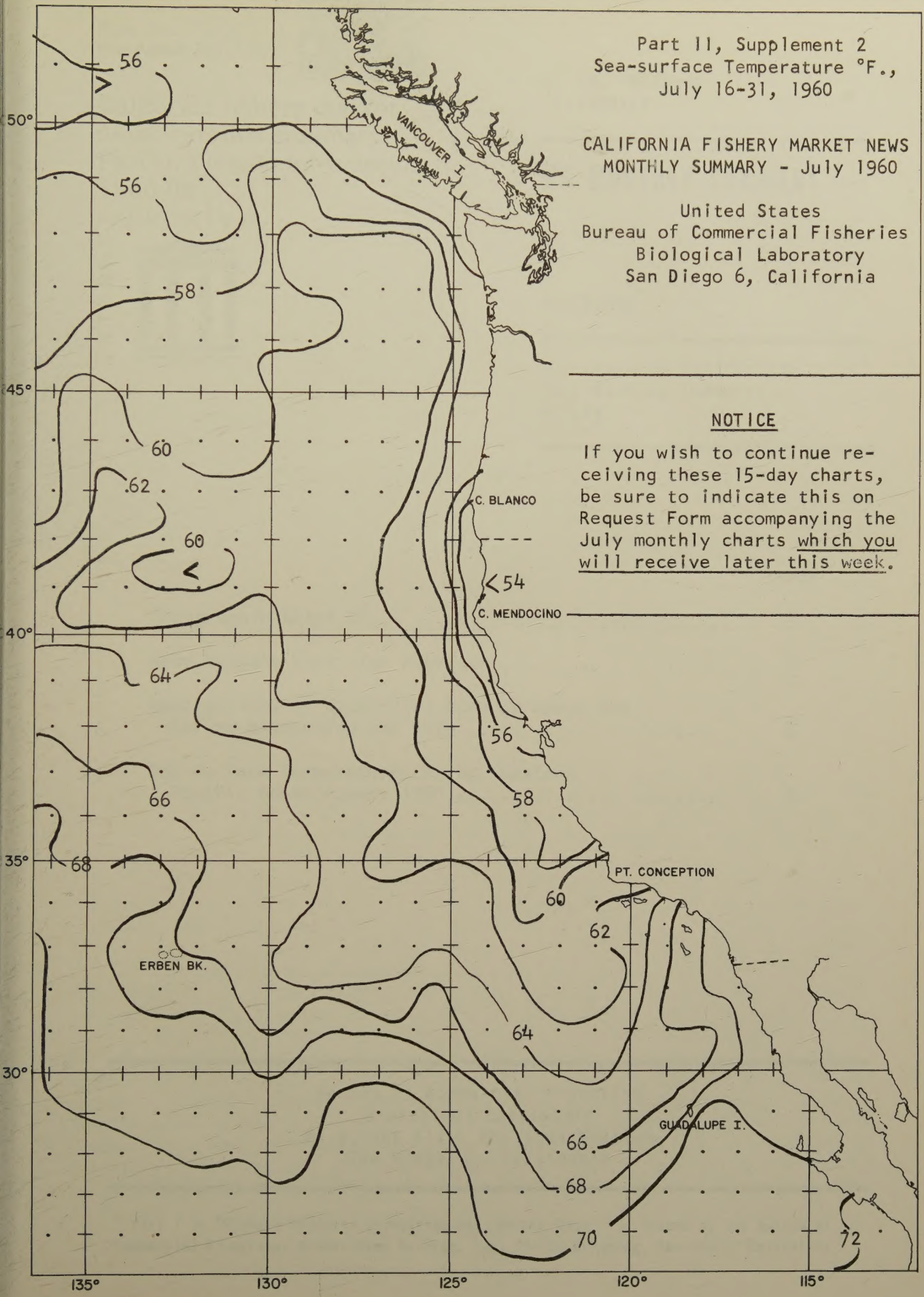


FIG.5-DEVIATION OF SEA SURFACE TEMP.(°F) JULY 1960 - JULY 1959 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1960.
MEXICO
CALIFORNIA
Guaymas
Alamos
Mazatlan
C.San Lucas
Manta Madre I
San Blas
C.Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
GUATEMALA
HONDURAS
Le Union
NICARAGUA
Corinto
Managua
Clipperton I
COSTA RICA
Panama
GULF OF PANAMA
Coiba I
Coops I
Malpelo I.
Esmeraldas
C.San Francisco
GALAPAGOS IS
Guayaquil
SOUTH AMERICA
Lobitos
P.Pasta
Matacabello
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Hablanaves
Pisco
Chala
Cachos
Mollendo
Ilo
Sala y Gomez
S.Felixes S.Ambrosio
Coquimbo
120°
110°
100°
90°
80°
70


Part II, Supplement 1
Sea-Surface Temperature °F.,
July 1-15, 1960
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - JULY 1960
United States
Bureau of Commercial Fisheries
Biological Laboratory
San Diego 6, California
VANCOUVER I.
C. BLANCO
C. MENDOCINO
PT. CONCEPTION
ERBEN BK.
GUADALUPE I.
54
56
58
60
60
62
64
66
60
62
64
66
68
70
0°
5°
10°
35°
30°
135°
130°
125°
120°
115°


Part II, Supplement 2
Sea-surface Temperature °F.,
July 16-31, 1960
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - July 1960
United States
Bureau of Commercial Fisheries
Biological Laboratory
San Diego 6, California
NOTICE
If you wish to continue receiving these 15-day charts, be sure to indicate this on Request Form accompanying the July monthly charts which you will receive later this week.
VANCOUVER I.
C. BLANCO
C. MENDOCINO
PT. CONCEPTION
ERBEN BK.
GUADALUPE I.
56
56
58
60
62
60
54
64
56
58
66
68
60
62
64
66
68
70
72
50°
45°
40°
35°
30°
135°
130°
125°
120°
115°